

ASAP - General

Dart Aerospace Ltd.

Date: Friday, 19/01/2007 8:50:26 AM  
User: Linda Lacelle

### Process Sheet

Customer	: CU-DND001 Department of National	Drawing Name	: STIFFENER
Job Number	: 30323		
Estimate Number	: 12652		
P.O. Number	: N/A	Part Number	: G106044
This Issue	: 19/01/2007 S.O. No. : N/A	Drawing Number	: G10604 REV A
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A Type : SMALL /MED FAB	Drawing Revision	: A
Previous Run	: N/A	Material	: N/A
Written By	: <u>W</u>	Due Date	: 26/01/2007 Qty: 10 Um: Each
Checked & Approved By	: <u>W</u>		
Comment	: Est Rev:A New Issue 07-01-18 JLM		

#### Additional Product

REPLACE

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M2024T3S050	2024-T3 .050 sheet
Comment: Qty.: 0.4430 sf(s)/Unit Total: 4.4300 sf(s) 2024-T3 .050 sheet m 103321 Batch: M103210		
2.0	WATER JET	FLOW WATER JET
Comment: FLOW WATER JET ml 07 01 29 (10) 1-Cut as per Dwg G10604 Dwg Rev: A Prog Rev: G106044 SAN 07/01/22 (10)		
2-Deburr if necessary ****USE SAME CUTTING FILE FOR -4 & -5****		
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
Comment: INSPECT PARTS AS THEY COME OFF MACHINE ml 07 01 29 (10) SAN 07/01/22 (10)		
4.0	QC8	SECOND CHECK
Comment: SECOND CHECK ml 07/01/22 (10) 07/01/22 (13)		
5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
Comment: SMALL & MEDIUM FAB RESOURCE 1 1-C'sink as per Dwg G10604 only. C'sink .128" DIA Holes To Ø.225" DIA X 100° FF 07-22-22		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes (No) DQA: LD Date: 07/03/05  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 19/01/2007 8:50:26 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DND001 Department of National

Drawing Name: STIFFENER

Job Number: 30323

Part Number: G10604

Job Number:



Seq. #:

Machine Or Operation:

Description :

2-Formas per Dwg G10604

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

815 07/01/22

07/01/23 (10)

7.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

28/4 FL

07/02/01

07/01/24 (10)

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

07/01/24 10

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

07/01/24 (10)

(10)

10.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

07/02/05

Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

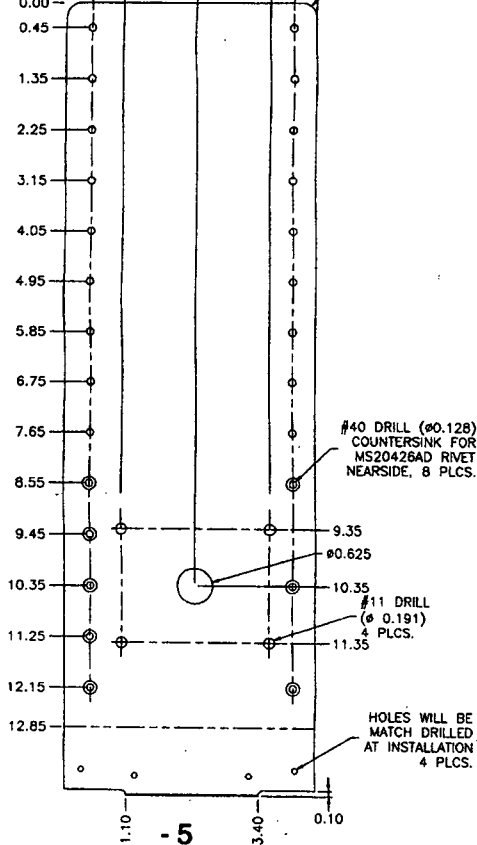
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

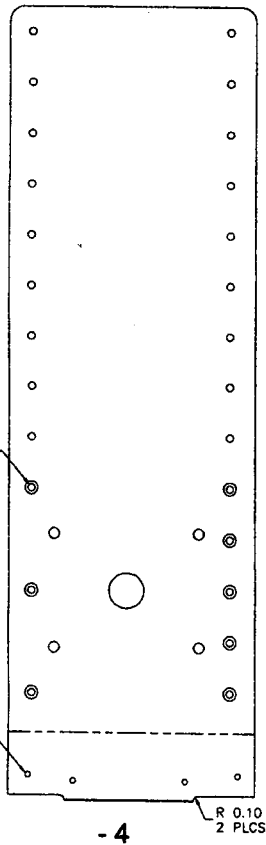
WLO 30323

REV	REVISION		DATE	APPROV
	DESCRIPTION			
A	- COMBINE SHEET 1 AND 2. - CHANGE DRAWING FORMAT. - UPDATE DIMENSIONS AND NOTES. - ECO 1038, 1040		4/9/01	

0.00  
0.45  
1.01  
2.30  
3.80  
4.00  
4.40  
R 0.2 TYP



-4 AND -5 FLAT PATTERN ARE IDENTICAL EXCEPT BENDS ARE OPPOSITE SIDE AND COUNTERSINK AS NOTED



12.84

(13.90)

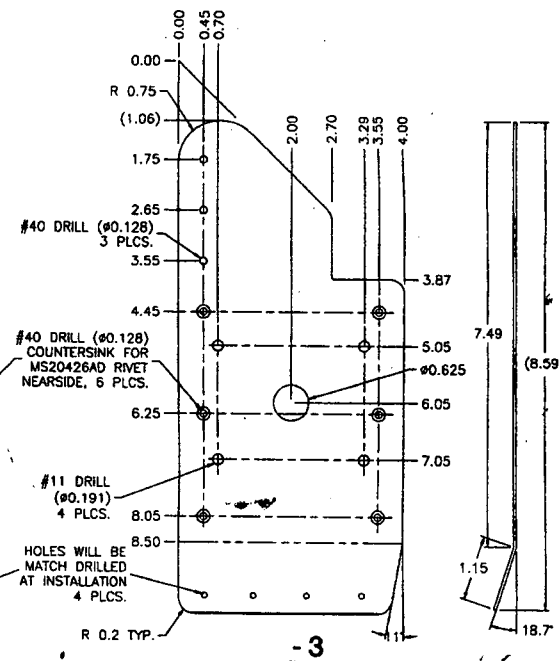
1.10

R 0.10  
2 PLCS.

NOTES:

UNLESS OTHERWISE NOTED.

1. MAT'L: ALUM 0.050 THICK, 2024-T3 QQA-250/4
2. ALL PILOT HOLES ARE #40 DRILL (#0.098), TO BE DRILLED TO SIZE AT ASSEMBLY.
3. FINISH: ETCH, ALODINE PER MIL C5541-1A.



-6

-3

-3 AND -6 FLAT PATTERN ARE IDENTICAL EXCEPT BENDS ARE OPPOSITE SIDE AND COUNTERSINK AS NOTED

BREAK ALL EDGES		DATE	3/20/95
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		CHECK	T. S.
DIMENSIONAL TOLERANCES		DATE	
3 DECIMALS ± .010		DESIGN	DATE
2 DECIMALS ± .005		DATE	
1 DECIMAL ± .020		APPROVAL	DATE
ANGULAR ± 1°		RCC	4/3/95
THIS DRAWING INCLUDES INFORMATION PROPRIETARY TO GENEVA AVIATION AND SHALL NOT BE USED OR REPRODUCED BY ANYONE WITHOUT THE WRITTEN PERMISSION OF GENEVA AVIATION INC.			
GENEVA AVIATION 10108 - 32nd Ave W Everett, WA 98204 (425)353-7400 FAX(425)347-7100		TITLE REAR SHOULDER HARNESS STIFFENER	
DWG NO. G10604		REV. A	
PROJ NO. QA159		SCALE 1/1	
SHEET D		1 OF 1	

DART AEROSPACE LTD		Work Order: 30323
Description:		Part Number: 6106044
Inspection Dwg:	Rev:	Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article

☒ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.128	+0.005/-0.001	Ø0.128	✓		Vern	
Ø0.625	+0.003/-0.001	Ø0.624	✓		Vern	
Ø0.191	+0.005/-0.001	Ø0.191	✓		Vern	
1.10 <del>1.10</del>	+/- 0.030	<del>1.10</del> 1.10	✓		Vertical Vern	
3.40	+/- 0.030	3.40	✓		Vertical Vern	
4.40	+/- 0.030	4.40	✓		Vern	
0.45	+/- 0.030	0.45	✓		Vern	
1.01	+/- 0.030	1.00	✓		Vern	
2.30	+/- 0.030	2.30	✓		Vern	
3.60	+/- 0.030	3.60	✓		Vern	
4.00	+/- 0.030	4.00	✓		Vern	
0.45	+/- 0.030	0.45	✓		Vern	
1.35	+/- 0.030	1.35	✓		Vern	
3.15	+/- 0.030	3.15	✓		Vern	
4.95	+/- 0.030	4.95	✓		Vern	
7.65	+/- 0.030	7.65	✓		Vern	
9.35	+/- 0.030	9.35	✓		Vern	
11.35	+/- 0.030	11.35	✓		Vern	
0.040	+/- 0.010	0.050	✓		Vern	
					Vern	
					Vern	
					Vern	
					Vern	

Measured by: SAN	Audited by: [Signature]	Prototype Approval:
Date: 07/01/22	Date: 07/01/22	Date:

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	



m 2024T33050  
m 103210

SHIP TO:		<b>KAISER ALUMINUM</b> Trentwood Works - Spokane, WA 99215 Phone: (800) 367-2598			
SOLD TO:					
CUSTOMER PO NUMBER:	WORK PACKAGE:	CUSTOMER PART NUMBER:	SHIP RUNLOAD ID:	GOVT CONTRACT NUMBER:	
N18187			100830/10		
KAISER ORDER NO:	LINE ITEM:	SHIP DATE:	ALLOY:	CLAD:	TEMPER:
1033832	1	24-MAR-2008	2024	CLAD	T3
WEIGHT SHIPPED:	QUANTITY:	WT. NUMBER:	GAUGE:	WIDTH:	LENGTH:
7885 LB	223 PCS EST.	207855	0.0600 IN	48.000 IN	144.000 IN

### Certified Specifications

AMS 4041/RevP  
BATS 2505/RevNC

AMS QQ-A-280/5/RevA  
DMS 2174/RevB

ASTM B 209/Rev04

Test Code: 4013

Lot: 350042AB Cast 315

Drop 16

Ingot 2

### Test Results

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T3	LT / 2 (Min:Max)	63.9 : 64.7 (441 : 446)	44.8 : 45.8 (309 : 318)	15.2 : 15.8

MRS Deflection: 0.017 IN

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.24	4.57	0.59	1.40	0.01	0.13	0.02	0.01	0.01	TOT 0.04

### ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
2024 MIN	0.00	0.00	3.80	0.30	1.20	0.00	0.00	0.00	0.00	0.00	EACH	0.05
MAX	0.50	0.50	4.90	0.90	1.80	0.10	0.25	0.15	0.05	0.05	TOT	0.15
LINER MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EACH	0.03
MAX	0.25	0.40	0.05	0.05	0.05	0.00	0.05	0.03	0.05	0.00	TOT	0.00

Aluminum Remainder

### TEST NOTES

MATERIAL MEETS MINIMUM RESIDUAL STRESS (MRS)/CHEMICAL MILLING QUALITY (CMQ) REQUIREMENTS.





## SHIP TO:

COPPER & BRASS  
1715 WOODLAND DR.  
SALINE, MI 48176

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

## SOLD TO:

COPPER & BRASS SALES  
ATTN: ACCOUNTS PAYABLE  
P.O. Box 5116  
SOUTHFIELD, MI 48086

## Serial Number

4080397

1103321 64604-S B30324

CUSTOMER PO NUMBER: CN5004		WORK PACKAGE:		CUSTOMER PART NUMBER: 061825-6		SHIP RUN/LOAD ID: 100828/18		GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1043478	LINE ITEM: 1	SHIP DATE: 9-NOV-2006	ALLOY: 2024	CLAD: BARE	TEMPER: T3	PRODUCT DESCRIPTION: MILL FINISH SHEET			
WEIGHT SHIPPED: 3990 LB	QUANTITY: 143 PCS EST.	B/L NUMBER: 2010362	GAUGE: 0.0400 IN		WIDTH: 48.000 IN	LENGTH: 144.000 IN			

### Certified Specifications

AMS 4037/RevN

AMS-QQ-A-250/4/RevA

ASTM B 209/Rev06

Test Code: 1504

### Test Results

Lot: 380935A7 Cast 351

Drop 40

Ingot 3

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)		Yield KSI (MPA)		Elongation %				
	T3	LT / 2 (Min:Max)	67.7 : 68.0 (467 : 469)		46.6 : 46.8 (321 : 323)		15.3 : 16.4				
Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.28	4.51	0.59	1.43	0.03	0.16	0.02	0.01	0.00	TOT 0.05

### ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
2024 MIN	0.00	0.00	3.80	0.30	1.20	0.00	0.00	0.00	0.00	0.00	EACH	0.05
MAX	0.50	0.50	4.90	0.90	1.80	0.10	0.25	0.15	0.05	0.05	TOT	0.15

### Aluminum Remainder

### CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

BILL POYNOR, LABORATORIES SUPERVISOR

*Bill Poy*